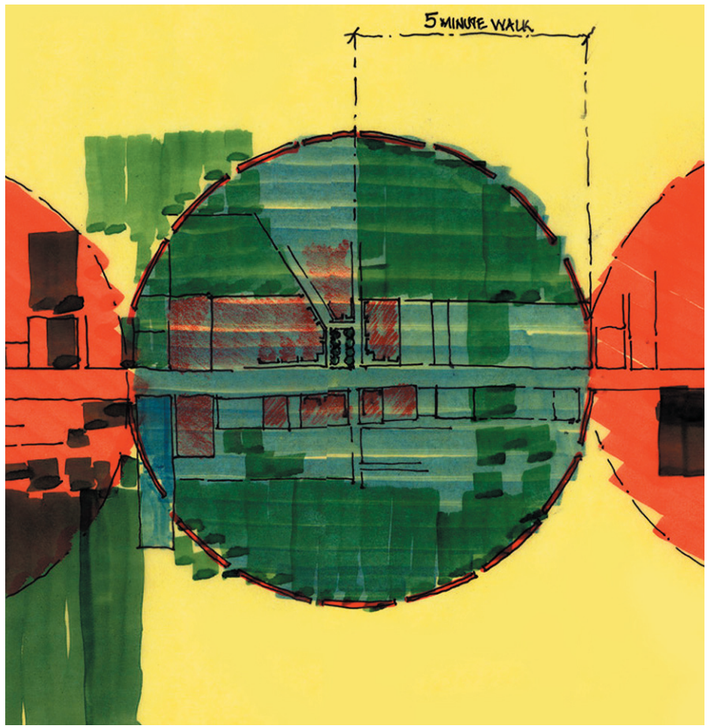
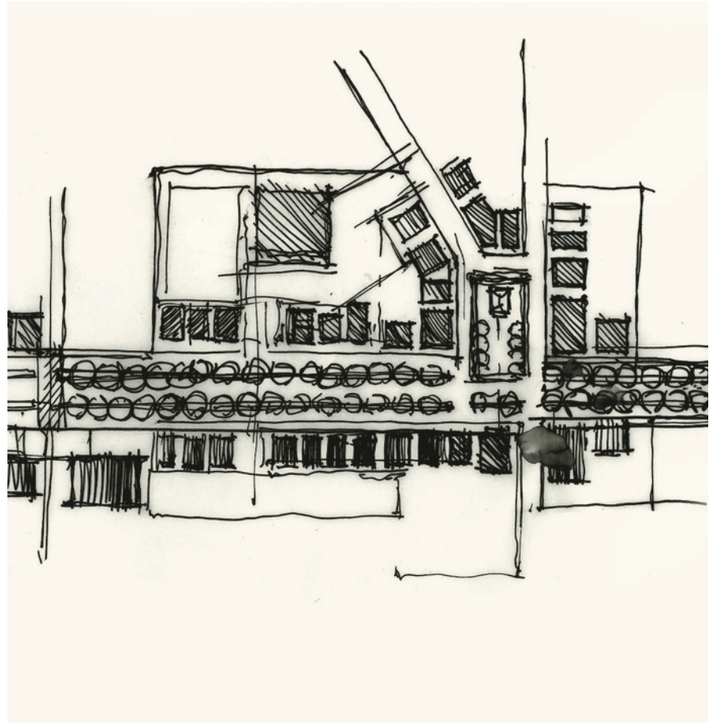
TRAFFIC AND TRANSPORTATION





THE VILLAGE CENTER

Observation

Pedestrians in the corridor feel uncomfortable both crossing US 1 and moving to and from the surrounding streets. One key reason for this discomfort is the high speed of US 1 traffic. Traffic is delayed by the traffic signals; sometimes for half a mile. When the red signal turns green, drivers are tempted to rush to reach the next island, at higher than the posted speed.

In addition, commercial activity along US 1 is highly auto oriented and strung out, east/west, along most of the island. Often it is too far to comfortably walk from one destination to another.

Discussion

To address problems of excessive traffic speed, excessive volume, and limited walkability, a key long range goal (even 10 years, given the rate of growth policies) of the Big Pine Key/US 1 Corridor Area Enhancement Plan should be to concentrate commercial activities within a Village Center. This center would produce more walking trips among residents who live within one-quarter mile of the square as well as promoting more walking trips among those customers who drive to the commercial district and park on the periphery.

Recommendations

1. Adopt a Big Pine Key/US 1 Corridor Area Enhancement Plan that encourages development of a Village Center.

2. Amend the Monroe County Land Development Code to allow Village Center development as recommended in the Big Pine Key/US 1 Corridor Area Enhancement Plan.

PARALLEL ONE-LANE REVERSE FLOW SIDE STREETS

Observation

It is difficult for vehicles to make left turns onto US 1. This is due to high traffic volumes, traffic speed higher than what is posted, and the lack of gaps in oncoming traffic which would permit left turns.

Discussion

One potential solution to the left-turn challenge is the establishment of a right-turn circulation system. To implement this system, the existing 200 feet of right-of-way to the west of Key Deer Boulevard and east of Ships Way would be divided into three components, as follows:

1. A three-lane roadway - the two outer lanes would flow in opposite directions, and the middle lane would function as either a painted median or a turn lane;

2. A 30' landscaped median - north of the three-lane section; and

3. A one-lane, one-way section to the north of the median. The one-lane roadway would flow to the east and contain parking.

The right turn circulation system would work in the manner described following.

At each intersection of US 1 and a cross street, there will be several optional movements:

- A vehicle traveling on US 1 may need to turn around and go back in the opposite direction. Here, the driver would look for a side street, then, make a right-turn onto the side street and then to the one-lane one-way road. No stop signs would be encountered;

- A vehicle traveling in either direction on US 1 and desiring to make a left-turn onto a cross street would enter the turn lane (in the center of the three-lane section) and make the turn at the median opening;

- A vehicle approaching the right turn circulation system from a cross street will come to a stop sign. To make a left turn, the driver could either turn left onto US 1 or turn left into the one-way traffic lane. To make a right-turn, the driver would turn right onto the US 1 three-lane section; and

- A vehicle traveling in the one-way traffic side street would come to a stop sign at each intersection. These vehicles could then continue along their path, turn left onto the cross street and access US 1 by turning right around the median, or turn left onto the three lane section.

This system would greatly decrease the need for vehicles to make left turns onto US 1, by allowing them to travel in an opposite direction to the nearest travel lane. Local destinations can be easily reached, with the return trip accommodated by right turns onto US 1. The addition of the one-lane reverse flow section will remove the need for vehicles to merge with two lanes of fast moving traffic.

Figure 1 illustrates the type of design that should be avoided. The side streets shown here are mainly used for parking and access for a limited number of businesses. The side streets are not connected to the crossroads - in fact they are purposely blocked off. Therefore, they provide only limited help in abating congestion on the main road.

As illustrated in Figure 2, cars are forced to merge into US 1 traffic since the side streets are terminated at each intersection.

Figure 1- Side road used for business access and parking, Marathon

Figure 2 - Side road design forces merge into US 1, Marathon

Figure 3 - Example of side street treatment, Islamorada

Figure 4 - Typical side street parking, Islamorada

As seen in Figure 3, the system used in Islamorada is a good example of side-street design. The wide median separates the high-speed traffic from slower local traffic. The side streets are through-streets at intersections, which allow them to be a viable alternative to the high-speed section. To simplify intersection operations, we recommend these side street sections have one way operation. Figure 4 shows a typical Islamorada side street parking arrangement.

Recommendations

The Big Pine Key/US 1 Corridor Area Enhancement Plan proposes to redesign the existing 200 feet of right-of-way to the west of Key Deer Boulevard and east of the wetland area near Ships Way to include the following components:

1. Three-lane roadway. Outer lanes should flow in opposite directions while the middle lane functions as a turn lane.

2. A median to the north of the three-lane section. There should be a break in the median at the intersection of each cross street.

3. A one-lane, one-way section to the north of each median. Travel in these lanes will be in an opposite direction to the nearest travel lane. With stop signs on the one-way streets at the intersection of each cross street.